

REMARKS

Claims 1-9 remain in the application and have been amended hereby.

As will be noted from the Declaration, Applicants are citizens and residents of Japan and this application originated there.

Accordingly, the amendments made to the specification are provided to place the application in idiomatic English, and the claims are amended to place them in better condition for examination.

An early and favorable examination on the merits is earnestly solicited.

Respectfully submitted,
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JHM:jb9

VERSION WITH MARKINGS TO SHOW CHANGES MADE
IN THE ABSTRACT OF THE DISCLOSURE

Please amend the Abstract by rewriting same to read as follows.

[Disclosed herein are a] A radio transmission apparatus and a radio transmission method for readily controlling retransmission timing[. A radio transmission method according to the present invention] presets a frame cycle for retransmission, and transmits only packets [whose receipt acknowledging information] for which no acknowledgement of receipt has [not] been received [in receipt acknowledging information replies] within the frame cycle as a reply from a receiving apparatus to a transmitting apparatus [in an unreceived packet retransmission and a packet re-retransmission on arrival of the frame cycle]. Thus, timing for retransmission can be readily determined. Also, the retransmission timing is determined based on [the basis of timing in which] when a packet is actually transmitted. Therefore, [the receipt acknowledging information replies] multiple acknowledgements of receipt can be returned as a combined reply.

IN THE CLAIMS

Please amend claims 1-9 by rewriting same to read as follows.

--1. (Amended) A radio transmission method for transmitting a packet from a radio transmission apparatus serving as an information transmitter to a radio transmission apparatus serving as an information receiver, returning [receipt acknowledging information of] acknowledgement of receipt for a received packet from said radio transmission apparatus serving as said information receiver to said radio transmission apparatus serving as said information transmitter after transmission of information, and retransmitting an unreceived packet from said radio transmission apparatus serving as said information transmitter to said radio transmission apparatus serving as said information receiver in a wireless network, said wireless network being formed with a plurality of transmission apparatus serving as communication stations, said radio transmission method comprising the steps of:

[on a side of] at said radio transmission apparatus serving as said information transmitter, setting a predetermined transmission frame cycle; presetting a frame cycle for retransmission; and

automatically retransmitting only a packet [whose receipt acknowledging information has not] for which no acknowledgment of receipt has been received [on] by the time [arrival of] said frame cycle arrives for retransmission.

--2. (Amended) A radio transmission method for transmitting a packet from a radio transmission apparatus serving as an information transmitter to a radio transmission apparatus serving as an information receiver, returning [receipt acknowledging information] acknowledgment of a received packet from said radio transmission apparatus serving as said information receiver to said radio transmission apparatus serving as said information transmitter after transmission of [information] said packet, and retransmitting an unreceived packet from said radio transmission apparatus serving as said information transmitter to said radio transmission apparatus serving as said information receiver in a wireless network, said wireless network being formed with a plurality of transmission apparatus serving as communication stations, said radio transmission method comprising the steps of:

[on a side of] at said radio transmission apparatus serving as said information transmitter,

setting a predetermined transmission frame cycle;
entering a sequence number of a last packet
transmitted in said frame cycle as a transmission pointer
value of said frame; and

referring to the transmission pointer value of a
frame cycle for retransmission in each said frame cycle and
automatically retransmitting only a packet whose
acknowledgement of receipt [acknowledging information] has
not been received.

--3. (Amended) [A] The radio transmission method
according to claim 1, wherein said frame cycle for
retransmission is preset to [an arbitrary] a predetermined
frame cycle depending on a size of an asynchronous
transmission area available for asynchronous transmission
in a radio transmission line allowing one of band-reserved
transmission [or] and band-secured transmission.

--4. (Amended) [A] The radio transmission method
according to claim 1, wherein [the] a predetermined number
of retransmissions are set, and then retransmission is made
for said number of retransmissions.

--5. (Amended) [A] The radio transmission method
according to claim 1, wherein a frame cycle for discarding
unreceived packets is preset, and a packet [whose] is
discarded when receipt acknowledging information [has not

been] is not returned [until] within said frame cycle [is discarded].

--6. (Amended) [A] The radio transmission method according to claim 2, wherein [the] a sequence number of the said last packet transmitted in said frame cycle is entered as the transmission pointer value of said frame cycle; and the transmission pointer value of a frame cycle for discarding packets is [referred to] included in each said frame cycle and a packet [whose receipt acknowledging information] for which no acknowledgement of receipt has [not] been received is discarded.

--7. (Amended) A radio transmission apparatus for transmitting information in a wireless network, said wireless network being formed with a plurality of communication apparatus serving as communication stations, said radio transmission apparatus comprising:

packetizing means for [packetizing] dividing asynchronous information into packets as predetermined information units on said wireless network;

transmitting means for transmitting said packets under predetermined access control;

receiving means for receiving [receipt acknowledging information] acknowledgement of receipt from

a radio transmission apparatus serving as an information receiver;

frame cycle setting means for setting a predetermined transmission frame cycle;

timing means for timing said frame cycle;

retransmission frame cycle setting means for presetting a frame cycle for retransmission; and

retransmitting means for automatically retransmitting only a packet whose [receipt acknowledging information] acknowledgment of receipt has not been received [on] by the time [arrival of] said frame cycle arrives for retransmission.

--8. (Amended) A radio transmission apparatus for transmitting information in a wireless network, said wireless network being formed with a plurality of communication apparatus serving as communication stations, said radio transmission apparatus comprising:

packetizing means for [packetizing] dividing asynchronous information into packets as predetermined information units on said wireless network;

transmitting means for transmitting said packets under predetermined access control;

receiving means for receiving [receipt acknowledging information] acknowledgement of receipt

information from a radio transmission apparatus serving as an information receiver;

frame cycle setting means for setting a predetermined transmission frame cycle;

transmission pointer recording means for recording a sequence number of a last packet transmitted in said frame cycle as a transmission pointer value of said frame;

timing means for timing said frame cycle;

retransmission frame cycle setting means for presetting a frame cycle for retransmission; and

retransmitting means for referring to the transmission pointer value of said frame cycle for retransmission in each said frame cycle and automatically retransmitting only a packet [whose receipt acknowledging information] for which no acknowledgement of receipt has [not] been received.

--9. (Amended) A radio transmission apparatus for transmitting information in a wireless network, said wireless network being formed with a plurality of communication apparatus serving as communication stations, said radio transmission apparatus comprising:

packetizing means for [packetizing] dividing asynchronous information into packets as predetermined information units on said wireless network;

transmitting means for transmitting said packets under predetermined access control;

receiving means for receiving [receipt acknowledging information] acknowledgement of receipt from a radio transmission apparatus serving as an information receiver;

frame cycle setting means for setting a predetermined transmission frame cycle;

timing means for timing said transition frame cycle;

discarding frame cycle setting means for presetting a transition frame cycle [for discarding] to discard packets; and

discarding means for discarding a packet [whose receipt acknowledging information] for which no acknowledgement of receipt has [not] been received [on] by the time [arrival of] said frame cycle for discarding packets arrives.

IN THE BACKGROUND OF THE INVENTION

Please amend the Background of the Invention by rewriting page 1, line 21 - page 2, line 5 to read as follows.

The method has been considered for use in conjunction with a selective retransmission type automatic retransmission control method [(SR-ARG system)] (SR-ARQ system), which transmits information that the information receiver has successfully received a packet to the information transmitter as receipt acknowledging information, and selects and retransmits only an unreceived packet from the information transmitter.

IN THE DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please amend the Detailed Description of the Preferred Embodiment by rewriting page 30, lines 10-13 to read as follows.

Then, an ACK information reply 413 denoted by 48 for the pieces of packet information [D404]D410 and [E406]E411 is made from the receiving apparatus 42 to the transmitting apparatus 41.

Please amend the Detailed Description of the Preferred Embodiment by rewriting page 35, line 3 - page 36, line 6 to read as follows.

In this case, the packet [100]101 indicated by 57 was re-re-retransmitted in the frame number #83 of four frames back indicated by 53, the packet [100]101 indicated by 56 was re-retransmitted in the frame number #79 of eight

frames back indicated by 52, and the packet [100]101 indicated by 55 was retransmitted in the frame number #75 of twelve frames back indicated by 51. However, because ACK information of the packet [100]101 of sixteen frames back indicated by 54 has not been received yet, the packet 100 indicated by 58 is deleted on arrival of the frame number #87, and an upper layer that has made a request for the transmission of the packet is notified that the transmission of the packet is not possible.

Similarly, when a frame number #88 arrives, three retransmissions have been made during the past 16 frames; that is, the [packet 101]packets 102 to 105 indicated by 57 was re-re-retransmitted in the frame number #84 of four frames back indicated by 53, the [packet 101]packets 102 to 105 indicated by 56 was re-retransmitted in the frame number #80 of eight frames back indicated by 52, and the [packet 101]packets 102 to 105 indicated by 55 was retransmitted in the frame number #76 of twelve frames back indicated by 51. However, because ACK information of the [packet 101]packets 102 to 105 of sixteen frames back indicated by 54 has not been received yet, the packet 101 indicated by 59 is deleted on arrival of the frame number #88, and the upper layer that has made a request for the

transmission of the packet is notified that the
transmission of the packet is not possible.